CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

ORDER NO. 96-05
NPDES PERMIT NO. CA0001368

WASTE DISCHARGE REQUIREMENTS
FOR
SAN DIEGO GAS AND ELECTRIC COMPANY
SOUTH BAY POWER PLANT
SAN DIEGO COUNTY

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The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board), finds that:

1. On January 28, 1985, this Regional Board adopted Order No. 85-09, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0001368, **WASTE DISCHARGE REQUIREMENTS FOR SAN DIEGO GAS & ELECTRIC COMPANY, SOUTH BAY POWER PLANT, SAN DIEGO COUNTY.** Order No. 85-09 established waste discharge requirements for the combined discharge of up to 602.2 million gallons per day (MGD) of elevated temperature once-through cooling water and other waste discharges from the San Diego Gas & Electric Company (SDG&E) South Bay Power Plant to south San Diego Bay.

2. On June 29, 1989, Mr. G. D. Cotton, Senior Vice President, Engineering and Operations, SDG&E, submitted a complete report of waste discharge (RWD), dated June 28, 1989, in application for renewal of the South Bay Power Plant NPDES permit. SDG&E submitted amendments to the original application dated June 1, 1993 and October 26, 1994.

3. The SDG&E South Bay Power Plant is located at 990 Bay Boulevard, Chula Vista, California, in Section 9, T18S, R2W SBBM.

4. The South Bay Power Plant has four steam turbine electrical generating units and one gas turbine generator. Each of the four steam turbine units burns primarily natural gas with the option of burning fuel oil as economic conditions dictate. Each of the units can generate electricity independently or in conjunction with one another. The table below summarizes each unit's current net megawatt (MW) rating and start-up date.

Unit	Date on Line	Capacity
1	July 1960	147 MW
2	June 1962	150 MW
3	September 1964	171 MW
4	December 1971	222 MW
Gas Turbine	October 1966	19 MW
Total Plant Capacity		709 MW

These ratings can, and do, fluctuate over time.

Operation of the four steam electric generating units involves a closed cycle in which steam is produced in the boilers, passed through the turbines to generate electricity and then condensed to a liquid by the cooling water system before being returned to the boilers.

5. At full capacity, the "combined discharge" of wastewater

from the South Bay Power Plant to San Diego Bay is 600 MGD (rounded to two significant figures) and consists of the following waste streams:

(a) Once-Through (Non-contact) Cooling Water
(b) Low Volume Wastes
(c) Metal Cleaning Wastes

For purposes of this Order, low volume wastes and metal cleaning wastes shall constitute in-plant wastes.

No wastes produced by or in connection with the gas turbine generator are discharged to San Diego Bay.

6. A more detailed breakdown of wastewater discharges from the South Bay Power Plant is tabulated below:

Wastewater Discharge	Maximum Flow (MGD)
(a) Once-Through (Non-contact) Cooling Water	601.183
(1) Condenser cooling water	
(2) Cooling water pump lubrication and seal water	
(3) Cooling water pump lubrication and seal water pretreatment backwash	
(4) Traveling screen washwater	
(5) Condenser pre-filter and ball recirculation system discharge	
(6) Forebay cleaning washwater	
(7) Condenser vacuum pump seal water	
(b) Low Volume Wastes	0.537
(1) Boiler blowdown	
(2) Freshwater reverse osmosis (RO) brine	
(3) Evaporator blowdown	
(4) Condenser cleaning	
(5) Sample drains	
(6) Floor drains	
(7) Demineralizer	
(8) Softeners	
(9) Freshwater RO membrane cleaning	
(10) RO sand filter backwash	
(11) Portable demineralizer rinse flush	
(c) Metal Cleaning Wastes	0.453
(1) Boiler chemical cleaning	
(2) Air heater wash	
(3) Boiler fireside wash	
(4) Selective catalytic reduction (SCR) wash	
TOTAL	602.173

These waste streams are depicted in Attachment A, a water

flow schematic prepared by SDG&E.

Sanitary wastes from the South Bay Power Plant are discharged to the municipal sewer system for treatment and disposal.

Once-through cooling water and boiler blowdown are discharged to San Diego Bay without treatment. The balance of the low volume wastes and the metal cleaning wastes are treated before discharge to San Diego Bay.

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ONCE-THROUGH COOLING WATER

7. Cooling water is withdrawn from San Diego Bay through a dredged intake channel which extends into San Diego Bay. The amount of cooling water required depends on the number of units in operation. Floating material is removed from the flow by a series of skimming booms. After passing under these booms, the water enters one of three intake structures which are located approximately 200 feet from the power plant on the southeastern edge of San Diego Bay on the northern side of the intake basin (see Attachment B). (For purposes of this Order, the "intake basin" consists of the waters of the intake channel east of the SDG&E property line. (See Attachment B.) Units 1 and 2 are served by a common intake structure. Units 3 and 4 are served by separate intake structures, one for each unit. Water entering an intake structure passes through trash racks and then through traveling screens, after which it is pumped through the condensers. The trash racks are cleaned periodically as needed and the debris removed from the trash racks is sent to an appropriate land disposal site. The traveling screens are cleaned intermittently and the debris removed from the traveling screens is washed into a screen debris trough which crosses over the intake basin and empties into the discharge basin. (For purposes of this Order, the "discharge basin" consists of the waters of the discharge channel east of the SDG&E property line. See Attachment B.)

   In the past, SDG&E has used a debris net across the intake channel due to periodic heavy influxes of eelgrass and debris. The debris net, which has mesh openings of one inch, was used routinely during the summer months from 1982 to 1986. However, due to improvements made to the traveling screen systems, use of a debris net is now limited to periods of extraordinarily high influxes of debris. When in use, the debris net is cleaned daily.

8. Each unit has two once-through cooling water pumps. The approximate combined capacities, based on nameplate ratings, of the cooling water pumps for each unit are:

Unit 1	-	78,000 gpm (112 MGD)
Unit 2	-	78,000 gpm (112 MGD)
Unit 3	-	124,600 gpm (179 MGD)
Unit 4	-	136,800 gpm (197 MGD)
Total		417,400 gpm (601 MGD)

Note: gpm = gallons per minute

With all units in operation (all pumps operating) the once-through cooling water flow through the plant is 417,400 gpm (601 MGD).

The cooling water pumps for units 1 and 2 utilize freshwater (i.e., municipal water) for pump lubrication and seal water. Units 3 and 4 utilize filtered bay water for this purpose. For these units, the bay water makeup filtration system removes particulates from the water which are automatically backwashed into the traveling screen debris trough which discharges to the discharge basin. The maximum discharge flowrate from the lubrication and seal systems and the filtration backwash system is approximately 0.127 MGD.

9. The condensers have a shell-and-tube arrangement in which heat is transferred from the turbine exhaust steam to the once-through cooling water. Units 1, 2, and 3 have two-pass condensers (water enters the top, passes through the condenser twice, and exits the bottom). The Unit 4 condenser has a single-pass design. The tubing material in the Unit 1 condenser is AL-6X, a high performance stainless steel containing alloying elements of chromium, molybdenum and nickel. Units 2, 3 and 4 have copper-nickel tubing. Heated once-through cooling water from each unit's condenser enters a separate discharge pipe which crosses under the intake basin and empties into the discharge basin through a separate discharge structure. Unit 1's condenser utilizes a pre-filter and a ball recirculation system to reduce fouling on its tubes. Material collected on the pre-filter is automatically discharged directly to the unit's condenser discharge. In addition, the condensers on all units utilize vacuum pumps to remove trapped air pockets from the cooling water system to maintain the unimpeded flow of cooling water to the discharge channel for efficient unit operation. These pumps discharge small volumes of incidentally collected condenser water (i.e., bay water) and a small volume of vacuum pump bearing seal water (i.e., freshwater) directly to the cooling water intake basin.

10. SDG&E reports that condenser tube leaks, though they occur

intermittently and infrequently, can cause significant operating problems and increased frequency of boiler chemical cleanings for the power plant. SDG&E has tested materials at the plant to temporarily plug leaks to allow the unit to operate until it can be removed from service for repair. By letter dated December 22, 1994, SDG&E indicated that alfalfa pellets were shown to be effective for use in temporarily plugging condenser leaks at the plant. SDG&E plans to continue to use alfalfa pellets at the South Bay Power Plant for this purpose.

11. The metallic surfaces of the cooling water system which come into contact with bay water are subject to erosion and corrosion. Each unit's cooling water system utilizes corrosion protection systems to inhibit the corrosion process. As a result, the quantity of metals entering the cooling water due to erosion or corrosion, except for zinc as described below, is reduced.

    To inhibit corrosion, Units 1 and 2 have impressed current (i.e. electric) cathodic protection, and Units 3 and 4 utilize zinc waste plates. The zinc waste plates serve as an anode and promote the corrosion of zinc in place of the other metals.

12. Cooling water is chlorinated using sodium hypochlorite to minimize formation of algae and slime, which forms in the condenser tubes if control measures are not practiced. Sodium hypochlorite solution is injected into the once-through cooling water immediately upstream of the cooling water pumps for each unit. Each injection point is controlled separately. Sodium hypochlorite is currently injected at each cooling water pump for ten minutes every two hours; however, this schedule may be adjusted to other duration/frequency combinations to obtain the most effective results from the chlorination. The daily quantity of sodium hypochlorite injected into the system depends on the rate of slime and algae formation. The daily usage in the summer is greater than the daily usage in the winter. Sodium hypochlorite treatment is conducted intermittently throughout the day on each unit that is operating.

    A bromide additive (sodium bromide), which reacts with chlorine to form hypobromous acid was tested between 1989 and 1991 in the SDG&E South Bay Power Plant cooling water for its ability to control biological fouling of the condensers. SDG&E may use sodium bromide, in conjunction with sodium hypochlorite, in the future at the South Bay Power Plant. Test methods for total residual chlorine (TRC) measure total residual oxidants, which include bromine. Consequently, the TRC effluent limit in this permit regulates the discharge of bromine.

13. Heat treatment of the tunnels and condenser units for removal of encrusting organisms is not conducted at the South Bay Power Plant. The encrusting organisms and sediments are manually removed from the plant's intake structure and are discharged into the discharge basin via the screen debris trough.

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LOW VOLUME WASTES

14. Currently, fresh water used at the South Bay Power Plant is obtained from the municipal water supply. In its report of waste discharge, SDG&E proposed to install and operate an on-site saltwater reverse osmosis (RO) desalination facility to provide a secondary fresh water supply for the plant. By letter dated June 3, 1996, SDG&E informed the Regional Board that it was not going to pursue the permitting and the installation of a saltwater reverse osmosis system.

15. SDG&E periodically performs work on its fuel handling facilities which include large above ground tanks and pipelines. Prior to returning these facilities to service, the facilities are cleaned and filled with water to test their integrity. SDG&E has requested authorization to discharge this hydrotest water to San Diego Bay. Since hydrotests are conducted infrequently and the types and concentrations of pollutants in hydrotest water are not known until the time when the hydrotest water is ready to be discharged, this Order does not authorize the discharge of hydrotest water to San Diego Bay. The discharge of hydrotest water may be authorized at a later date by an addendum to this Order or with a separate permit, after SDG&E submits an application for the discharge.

16. Boiler blowdown is discharged directly to the cooling water system. Other low volume wastes (i.e., freshwater RO brine, evaporator blowdown, condenser cleaning, sample drains, floor drains, demineralizer, softeners, freshwater RO membrane cleaning, RO sand filter backwash, and portable demineralizer flush) are collected and treated prior to discharge. In 1990, a new low volume waste treatment system started operation to provide oil/solids separation for these low volume wastes. Filtration of these wastewaters can be performed as an alternative treatment or as a backup treatment in the event the oil/solids separator becomes inoperable.

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METAL CLEANING WASTES

17. Metal cleaning wastewaters include wastewater from boiler chemical cleaning, air heater washes, boiler fireside washes, and selective catalytic reduction (SCR) washes. The

volume of metal cleaning wastes produced on an annual basis is dependent on plant operations. Ordinarily, each boiler at the South Bay Power Plant would undergo chemical cleaning once in a period of four years. It is possible that all four could require cleaning in a single year. A chemical cleaning is performed with a dilute solution of hydrochloric acid and thiourea. The boiler to be cleaned is drained of the water it contains and filled with fresh water, then fired to heat the water and metal up to temperature. When the required temperature is attained, a "fast drain" is done and the warm water is pumped back into the boiler with the chemicals mixed into the water during pumping. At this point the boiler is allowed to sit for six hours with the cleaning solution inside. The temperature is monitored so that if the system cools too quickly it can be drained sooner. After the cleaning solution has been given time to work on the deposits, another fast drain is done and the cleaning job is checked to ensure that the deposits have been removed. A rinse cycle follows and samples are taken during the draining. Usually a second and a third rinse are done. The third volume of water contains citric acid. The final volume in the cleaning operation contains phosphate and sodium hydroxide as neutralizing agents. When filled with this solution, the boiler is fired slowly to circulate the water. Finally, the unit is drained, refilled, fired, and blown down.

Boiler chemical cleaning is also sometimes performed using a sodium salt of ethylenediaminetetraacetic acid (EDTA), a chelating cleaning agent, rather than hydrochloric acid.

18. The air heaters are usually washed once a year during overhaul operations when the facility is burning natural gas and twice a year when burning fuel oil. These washes are accomplished by spraying water against the surfaces to be cleaned. Wastewaters thus generated contain an assortment of dissolved and suspended solids with constituents and quantities dependent upon the fuel used.

19. Boiler fireside washes are performed to remove soot and accumulated combustion by-products from metal surfaces in order to maintain efficient heat transfer. The frequency depends on the fuel being burned. These washes are accomplished by spraying high-pressure water against the surfaces to be cleaned. Wastewaters thus generated may contain ammonia compounds and an assortment of dissolved and suspended solids with constituents and quantities dependent upon the fuel used.

20. Selective catalytic reduction washes are performed to remove soot and unburned combustion products which build up in the catalyst bed contained in the selective catalytic reduction unit. The catalyst bed, which is designed to remove

nitrogen oxide from combustion gases, is washed with water. The catalyst bed wash frequency is dependent upon the amount and type of fuel burned. Wastewaters thus generated may contain ammonia compounds and an assortment of dissolved and suspended solids with constituents and quantities dependent upon the fuel used.

21. Metal cleaning wastewaters are collected in above ground tanks. Metal cleaning wastewaters undergo coagulation, flocculation, chemical precipitation, neutralization and filtration at an on-site wastewater treatment facility. The treated wastewaters are collected in tanks for testing and verification of compliance with effluent limitations prior to being discharged to the intake basin.

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22. Cooling water and other wastes from the South Bay Power Plant are discharged to San Diego Bay, a water of the United States, through the following conveyances (see Attachment B):

DISCHARGES TO THE INTAKE BASIN

a. six separate stormwater discharge pipes;

b. a separate discharge pipe for Unit 1 condenser vacuum pump sealing water;

c. four separate discharge pipes for Units 1, 2, 3, and 4 boiler blowdown;

d. a separate discharge pipe for Unit 1 condenser vacuum water;

e. a separate discharge pipe for telephone and valve vault drain water (stormwater);

f. a separate stormwater discharger pipe which is also used to convey Unit 2 condenser vacuum and pump sealing water;

g. two separate discharge pipes for Units 3 and 4 condenser vacuum and pump sealing water;

h. a separate stormwater discharge pipe which is also used to convey wastewater from the low volume and metal cleaning wastewater treatment facility;

i. a separate discharge pipe for fuel oil piping containment water (stormwater)

DISCHARGES TO THE DISCHARGE BASIN

j. four individual condenser outlet pipes through which cooling water is discharged (wastewaters discharged to the intake basin and drawn into the intake structures are also discharged through these pipes);

k. one traveling screen washwater discharge pipe which also functions as a conveyance for backwash water from the pre-filter on the cooling water pump lubrication water supply system and forebay cleaning washwater;

l. two separate stormwater discharge pipes, one of which functions also as a conveyance for fuel oil pump bearing cooling water and fuel oil pump containment water (stormwater);

m. one separate discharge pipe for fuel oil line containment water (stormwater); and,

n. one separate discharge pipe for fuel oil pump containment water (stormwater) and fuel pump motor bearing cooling water.

23. As shown in Attachment C, a jetty constructed by SDG&E extends from the northern side of the discharge basin into San Diego Bay. This jetty was constructed to prevent discharged cooling water from being drawn directly back into the intake structures. A narrow dredged channel, from which the material to construct the jetty was obtained, parallels the jetty. This dredged channel terminates at approximately Latitude 32°36'33" N, Longitude 117°06'49" W, at the southwesternmost end of the jetty. For purposes of Order No. 85-09, the southwesternmost end of the jetty was considered the discharge point.

For purposes of this Order, the "discharge channel" consists of the waters bounded by the jetty, a line extending from the southwesternmost end of the jetty to the eastern side of the mouth of the Otay River, the southern shoreline of San Diego Bay, and the shoreline of the discharge basin (see Attachment C). Therefore, the discharge channel includes, but is not limited to, the dredged channel referred to above. The discharge channel is a part of San Diego Bay. Waters in the discharge channel are waters of the United States. Consequently, it is not appropriate to consider the southwesternmost end of the jetty to be the discharge point. For purposes of this Order, the outlets of the pipes listed in Finding 22 are the South Bay Power Plant discharge points.

24. The Water Quality Control Plan, San Diego Basin (9), (Basin Plan) was adopted by this Regional Board on September 8, 1994 and subsequently approved by the State Water Resources Control Board (State Board) on December 13, 1994.

Subsequent revisions to the Basin Plan have also been adopted by the Regional Board and approved by the State Board. The Basin Plan designates beneficial uses and establishes narrative and numerical water quality objectives and prohibitions which are applicable to the discharges regulated under this Order.

24A. The Basin Plan includes a narrative water quality objective for toxicity. The South Bay Power Plant combined discharge causes or has the reasonable potential to cause or contribute to an excursion above this narrative objective. Therefore, in accordance with 40 CFR 122.44(d)(1)(v), this Order contains effluent limits for whole effluent toxicity (acute toxicity).

The Basin Plan does not include a water quality objective for total residual chlorine. However, total residual chlorine in the South Bay Power Plant combined discharge causes or has the reasonable potential to cause an excursion above the Basin Plan narrative objective for toxicity. Therefore, in accordance with 40 CFR 122.44(d)(1)(vi)(A), this Order contains effluent limits for total residual chlorine.

The Basin Plan does not include water quality objectives for metals. However, metals in the South Bay Power Plant combined discharge cause or have the reasonable potential to cause an excursion above the Basin Plan narrative objective for toxicity. This Order does not contain final effluent limits for metals. The effluent limits for whole effluent toxicity (acute toxicity) in this Order shall serve as effluent limits on indicator parameters in lieu of final effluent limits on metals per se, in accordance with 40 CFR 122.44(d)(1)(vi)(C). In addition, this Order requires implementation of Best Management Practices to control or abate the discharge of metals in accordance with 40 CFR 122.44(k)(1) and (3).

25. The Basin Plan identifies the following beneficial uses of the waters of San Diego Bay to be protected:

a. Industrial service supply;
b. Navigation;
c. Contact water recreation;
d. Non-contact water recreation;
e. Commercial and sport fishing;
f. Preservation of biological habitats of special significance
g. Estuarine habitat;
h. Wildlife habitat;
i. Rare, threatened, or endangered species;
j. Marine habitat;
k. Migration of aquatic organisms; and
l. Shellfish harvesting.

In accordance with federal regulations (40 CFR 131) and the Basin Plan, the beneficial uses required to be attained and protected in a water body are, as a minimum, the existing uses, i.e., those uses actually attained in the water body on or after November 28, 1975. Since all the existing units of the South Bay Power Plant were in commercial operation before that date, it is reasonable to conclude that the beneficial uses (and the characteristics of the beneficial uses) of San Diego Bay actually attained on and after that date coexisted with the South Bay Power Plant discharge.

Since waters in the discharge channel are waters of the United States, this Order is intended to protect the beneficial uses in the discharge channel, as well as other waters of San Diego Bay outside the discharge channel.

This Order provides greater protection of the beneficial uses of San Diego Bay than previous permits for the South Bay Power Plant.

26. Benthic data and bird data from the discharge channel have been compiled by various sources over the years. There is, however, a lack of data regarding fish populations in the discharge channel. The presence of fish is reported in recent bird studies which identified the discharge channel as being an area of heavy foraging by terns, pelicans and other birds. In recognition of the use of this area for foraging and the lack of fish data, this Order requires SDG&E to conduct or fund a fish study as specified in Reporting Requirement F.16. The purpose of this study is to establish a baseline of fish species and abundances in order to better document the characteristics of beneficial uses in the discharge channel.

27. The State Board adopted a Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Bays and

Estuaries Policy) on May 16, 1974. The Bays and Estuaries Policy establishes principles for management of water quality, quality requirements for waste discharges, discharge prohibitions, and general provisions to prevent water quality degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. These principles, requirements, prohibitions and provisions have been incorporated into this Order.

28. The Bays and Estuaries Policy contains the following principle for management of water quality in enclosed bays and estuaries, which includes San Diego Bay:

> The discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge. For the purpose of this policy, treated ballast waters and innocuous nonmunicipal wastewater such as clear brines, washwater, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.

For purposes of the Bays and Estuaries Policy and this Order, low volume wastes (except for freshwater RO brine) and metal cleaning wastes generated at the South Bay Power Plant are industrial process waters. At this time, there is no evidence that discharge of these wastes to San Diego Bay would enhance or has enhanced the quality of the waters of San Diego Bay above that which would occur in the absence of the discharge of such wastes. Therefore, this Order requires termination of the discharge of all metal cleaning wastes and all low volume wastes (except for freshwater RO brine) to San Diego Bay by a specified date. However, this Order also provides for modification of this Order if the Regional Board later makes certain findings concerning these wastes or the applicability of the Bays and Estuaries Policy to discharges from the South Bay Power Plant. (See Finding 52.)

The Bays and Estuaries Policy also prohibits the discharge or by-passing of untreated wastes. This Order prohibits the discharge and by-passing of untreated waste except for non-contact cooling water. For purposes of certain waste streams, this prohibition does not take effect until the

date by which this Order requires termination of the discharge of all metal cleaning wastes and all low volume wastes (except for freshwater RO brine) to San Diego Bay.

29. The Bays and Estuaries Policy also contains the following principle for management of water quality in enclosed bays and estuaries, which includes San Diego Bay:

> The following policies apply to all of California's enclosed bays and estuaries:
>
> 1. Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge.
>
> 2. Bay or estuarine outfall and diffuser systems shall be designed to achieve the most rapid initial dilution practicable to minimize concentrations of substances not removed by source control or treatment.
>
> 3. Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields.*
>
> 4. Waste discharges shall not cause a blockage of zones of passage required for the migration of anadromous fish.
>
> 5. Nonpoint sources of pollutants shall be controlled to the maximum practicable extent.

This Regional Board has considered this principle in adopting this Order. The terms and conditions of this Order are consistent with this principle.

> * Note: As of the date of adoption of this Order, no segment of San Diego Bay has been designated as an area where the protection of beneficial uses requires spatial separation from waste fields.

30. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on March 22, 1990. The Ocean Plan identifies the following beneficial uses of state ocean waters to be protected:

a. Industrial water supply;
b. Water contact recreation;
c. Non-contact water recreation;
d. Aesthetic enjoyment;
e. Navigation;
f. Ocean commercial and sport fishing;

g. Mariculture;
h. Preservation and enhancement of Areas of Special Biological Significance;
i. Preservation of rare and endangered species;
j. Marine habitat;
k. Fish migration;
l. Fish spawning; and
m. Shellfish harvesting.

In order to protect these beneficial uses, the Ocean Plan establishes numerical and narrative water quality objectives (i.e. bacteriological, physical, chemical, biological characteristics, and radioactivity), general requirements for management of waste discharges to the ocean, quality requirements for waste discharges (effluent quality requirements), discharge prohibitions, and general provisions. Water quality objectives and other requirements in the Ocean Plan were developed on the basis of substantial data, including data concerning the response of marine organisms to exposure to toxic substances.

31. The waters to which the Ocean Plan is applicable do not include enclosed bays and estuaries, such as San Diego Bay. However, the salinity and beneficial uses of waters of San Diego Bay are similar to those of ocean waters. Therefore, in the absence of a statewide water quality control plan for enclosed bays and estuaries, and in the absence of Basin Plan numerical objectives which are applicable to enclosed bays and estuaries or specific to San Diego Bay, it is reasonable to use the Ocean Plan as a reference in developing the requirements for a discharge to San Diego Bay. Therefore, the Ocean Plan has been used as a reference in developing certain effluent limitations, receiving water limitations, and other requirements contained in this Order.

32. On May 18, 1972, the State Water Resources Control Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). A revised Thermal Plan was adopted by the State Board on September 18, 1975. This Plan contains objectives for discharges of elevated temperature wastes (existing and new discharges) to coastal waters.

33. Under the terms and conditions of the Thermal Plan, thermal waste discharges from South Bay Power Plant Units 1-4 are classified as existing discharges.

34. Water quality standards for the discharge of elevated temperature wastes applicable to the discharge from the South Bay Power Plant are contained in the Thermal Plan and have been incorporated into this Order. SDG&E has not requested a Clean Water Act (CWA) Section 316(a) exception

to the water quality standards for the discharge of elevated temperature wastes from the South Bay Power Plant.

35. In 1972-73, SDG&E conducted a thermal effects study for the South Bay Power Plant as required by the Thermal Plan. In this study, SDG&E concluded that the existing elevated temperature wastes discharge from the South Bay Power Plant had caused no prior appreciable harm to the aquatic community of San Diego Bay and no significant adverse effects on the beneficial uses of the waters of San Diego Bay. However, the conclusions of the thermal effects study were made under the premise that the discharge channel was part of the power plant facilities rather than part of San Diego Bay. The study concluded that high temperatures caused by the elevated temperature wastes discharge in late summer-fall had adverse effects on benthic life within the discharge channel itself when compared to other parts of San Diego Bay. A United States Environmental Protection Agency (USEPA) review of 18 years (1977-94) of annual summer benthic studies concluded that although the benthic community in the discharge channel typically contains somewhat reduced diversity and abundance of species, the community present there is within the range observed at sampling stations outside the discharge channel and there have been no appreciable longterm upward or downward trends in species diversity or abundance.

36. In meetings conducted with SDG&E, USEPA, U.S. Fish and Wildlife Service (USFWS), Department of Fish and Game (DFG), and National Marine Fisheries Service (NMFS) in 1994-95, the absence of eelgrass beds in certain areas in south San Diego Bay was noted. It was hypothesized that high turbidity levels and/or the elevated temperature wastes discharge from the South Bay Power Plant may be inhibiting the distribution of eelgrass in south San Diego Bay. Therefore, in order to determine if the elevated temperature wastes discharge and/or high turbidity has an adverse effect on the distribution of eelgrass in south San Diego Bay, this Order requires SDG&E to conduct a study and submit the results as specified in Reporting Requirement F.17. The results of this study will be used to evaluate compliance with the Thermal Plan.

37. ***[This Finding intentionally left blank.]***

38. CWA Section 316(b) requires that the location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact. By letter dated October 30, 1977, the Regional Board requested SDG&E to initiate studies to demonstrate conformance with the requirements of Section

316(b) of the CWA.

39. In December, 1980, SDG&E submitted the final results of a cooling water intake system demonstration project for the South Bay Power Plant intended to comply with Section 316(b) of the CWA. SDG&E concluded that "the low and insignificant level of impact demonstrates that the existing South Bay Power Plant intake system represents the best technology available for this specific site to minimize adverse environmental impacts" [316(b) Summary, p. 4-22].

40. In September, 1993, the USEPA reviewed and concurred with the South Bay Power Plant 316(b) demonstration project results which indicate that marine receiving waters in the vicinity of the South Bay Power Plant contain viable, self-sustaining populations or communities of organisms and that the plant incorporates intake technologies for the purpose of minimizing adverse environmental impacts. In addition, the USEPA concluded that operations at the South Bay Power Plant have not considerably changed since the demonstration project was completed, thus indicating that the demonstration is applicable to current operations at the South Bay Power Plant. Therefore, the South Bay Power Plant meets the requirements of CWA Section 316(b).

41. The above finding regarding compliance with Section 316(b) of the CWA is based on review of information submitted to date. If this information is reevaluated, additional information is received, or the applicable laws or regulations are amended, then the findings and/or conditions of this Order may be modified accordingly.

42. It has not been demonstrated that it is appropriate to allow a mixing zone and/or dilution factor for the discharge from the South Bay Power Plant to San Diego Bay. However, this Order provides for modification of this Order if the Regional Board later finds that a mixing zone and/or dilution factor is appropriate for the discharge from the South Bay Power Plant to San Diego Bay.

43. Effluent limitations, national standards of performance, and toxic and pretreatment effluent standards established pursuant to Sections 301, 302, 303(d), 304, 306, 307, 316, and 403 of the CWA, as amended (33 U.S.C. 1251 et seq.), are applicable to the discharge.

44. On November 19, 1982, the USEPA promulgated revised effluent guidelines and standards for the steam electric power generating point source category (hereinafter power plant regulations). These power plant regulations establish effluent limitation guidelines, pretreatment standards and new source performance standards which are contained in 40 CFR Parts 125 and 423.

45. The best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) effluent limitations guidelines promulgated under the power plant regulations are applicable to discharges from the South Bay Power Plant.

46. This Order contains limits on the following discharges from the South Bay Power Plant:

a. Combined Discharge;
b. Low Volume Waste Discharges;
c. Metal Cleaning Waste Discharges; and
d. In-plant (Combined Low Volume and Metal Cleaning) Waste Discharges.

Since this Order requires certain discharges to be terminated by a specified date, this Order contains **interim** limits which apply to those discharges until they are terminated.

The **final** compliance point (see Finding 47) specified in this Order for all **final** combined discharge effluent limits (except limits on temperature) is closer to the South Bay Power Plant discharge points than the combined discharge monitoring point used to determine compliance with Order No. 85-09. This Order also contains combined discharge effluent limits which are new or more stringent than those in Order No. 85-09. Therefore, this Order also contains **interim** combined discharge effluent limits and specifies an **interim** combined discharge compliance point where SDG&E may be unable to immediately comply with the **final** limits at the **final** combined discharge compliance point specified in this Order. This Order also specifies the date when the **final** combined discharge effluent limits take effect at the **final** combined discharge compliance point.

Limits on these discharges were developed as outlined in the following findings.

47. Combined Discharge Limits
This Order contains **interim** and **final** effluent limits for the combined discharge from the South Bay Power Plant.

This Order specifies that the compliance point for all **interim** combined discharge effluent limits and the **final** combined discharge effluent limits on temperature is the same as the combined discharge monitoring point used to determine compliance with Order No. 85-09.

Since there are a number of points of discharge from the

South Bay Power Plant to San Diego Bay (see Findings 22 and 23), it is desirable to designate a single **final** compliance point for the combined discharge in order to simplify compliance sampling and monitoring. Since it has not been demonstrated that it is appropriate to allow a mixing zone for the discharge from the South Bay Power Plant to San Diego Bay (see Finding 42), this Order specifies that the **final** combined discharge compliance point for all **final** combined discharge effluent limits (other than temperature limits) is at the west end of the discharge basin, halfway across the discharge channel. This location is immediately downstream of the South Bay Power Plant discharge points in the discharge basin, i.e. the outlets of the South Bay Power Plant discharge pipes which empty into the discharge basin (see Findings 22 and 23). This location is also upstream of and closer to the discharge points than the combined discharge monitoring point used to determine compliance with Order No. 85-09.

This Order specifies that attainment of **final** combined discharge effluent limits (except for temperature) at the **final** compliance point for the **final** combined discharge effluent limits shall be considered a performance goal until such time that the **final** limits take effect.

Based on the November 9, 1993, October 26, 1994, and June 26, 1996, certifications by SDG&E that certain constituents are not added by SDG&E to the discharge from the South Bay Power Plant, this Order does not establish **interim** or **final** combined discharge limits for these constituents.

In keeping with 1990 Ocean Plan procedures for establishing discharge limits for power plants, this Order does not include combined discharge limits for certain Ocean Plan Table B constituents. In keeping with those procedures, however, this Order contains in-plant waste discharge limits for these constituents except for those constituents which SDG&E has certified to not be present in the discharge from the South Bay Power Plant.

For those constituents for which this Order includes **interim** combined discharge limits, those limits are the same as the combined discharge limits in Order No. 85-09.

Interim limits, but not **final** limits, for certain Ocean Plan Table B constituents are included in this Order. No final limits for these constituents are included in this Order because these constituents are not expected to be present in the South Bay Power Plant combined discharge after termination of the discharge of all metal cleaning wastes and all low volume wastes except for freshwater reverse

osmosis brine.

As discussed in Finding 24A, no final effluent limits for metals are included in this Order. Also, no final limits for arsenic are included in this Order because the effluent limits for whole effluent toxicity (acute toxicity) and the requirement for implementation of Best Management Practices to control or abate the discharge of metals are expected to also control or abate the discharge of arsenic.

The **final** combined discharge concentration limits for total residual chlorine were developed using the 1990 Ocean Plan Table B procedures for establishing such limits for power plants. Since it has not been demonstrated that it is appropriate to allow a mixing zone and/or dilution factor for the discharge from the South Bay Power Plant to San Diego Bay (see Finding 42), a dilution factor of zero was used to calculate the concentration limits. The **final** combined discharge limit for acute toxicity is the same as the combined discharge limit for "Toxicity Concentration" in Order No. 85-09. The **final** combined discharge mass emission rate limits in this Order were calculated using the concentration limits described above and the maximum combined discharge flowrate of 600 MGD (rounded to two significant figures).

This Regional Board may re-evaluate **final** combined discharge limits for total chlorine residual if the discharger is unable to meet those limits.

48. Low Volume Waste Discharge Limits
This Order contains concentration limits for low volume waste discharges. These limits are the same as the limits for low volume waste discharges in the federal power plant regulations (40 CFR 423).

This Order also contains **interim** and **final** mass emission rate (MER) limits for low volume waste discharges. The maximum **interim** MER limits for low volume waste discharges were calculated using the maximum low volume waste flowrate of 0.537 MGD.

The maximum **final** MER limits for low volume waste discharges were calculated using the maximum freshwater RO brine waste discharge flowrate of 0.029 MGD, since freshwater RO brine will be the only remaining low volume waste authorized to be discharge when the **final** limits take effect.

49. Metal Cleaning Waste Discharge Limits
This Order contains **interim** limits but not **final** limits for metal cleaning waste discharges since this Order requires

the discharge of metal cleaning wastes to be terminated. The **interim** concentration limits are the same as the limits for metal cleaning waste discharges in the federal power plant regulations(40 CFR 423).

The maximum **interim** MER limits for metal cleaning waste discharges were calculated using the maximum metal cleaning waste discharge flowrate of 0.453 MGD.

This Order does not contain **final** limits for metal cleaning waste discharges because this Order requires termination of all metal cleaning waste discharges.

50. In-plant Waste Discharge Limits

Based on the November 9, 1993, October 26, 1994, and June 26, 1996, certifications by SDG&E that certain constituents are not added by SDG&E to the discharge from the South Bay Power Plant, this Order does not establish **interim** or **final** combined discharge limits for these constituents.

This Order includes **interim** limits but not **final** limits for other Ocean Plan Table B constituents. The initial **interim** in-plant waste discharge limits for arsenic, cadmium, chromium (hexavalent), copper, lead, mercury, nickel, silver, zinc, cyanide, ammonia (as N), phenolic compounds (non-chlorinated) and chlorinated phenolics are the same as the in-plant waste discharge limits in Order No. 85-09 (which are mass emission rate (MER) limits only). The interim in-plant waste discharge limits (which are also MER limits only) for these constituents after December 31, 1997, were developed using the maximum combined discharge flowrate of 600 MGD (rounded to two significant figures) and the 1990 Ocean Plan procedures for establishing in-plant waste limits for power plants (except where the initial interim limits were more stringent, in which case the initial interim limits remain in effect). The **interim** in-plant waste discharge limits for bis(2-chloroethoxy) methane, bis(2-ethylhexyl) phthalate, chloroform, chromium (III), di-n-butyl phthalate, halomethanes, and PAHs (which are also MER limits only) were developed using the maximum combined discharge flowrate of 600 MGD (rounded to two significant figures) and the 1990 Ocean Plan procedures for establishing in-plant waste limits for power plants.

No **final** limits for in-plant waste discharges are included in this Order because the constituents for which this Order includes **interim** in-plant waste discharge limits are not expected to be present in South Bay Power Plant in-plant wastes after termination of the discharge of all in-plant wastes except for freshwater RO brine. As noted previously,

this Order includes low volume waste discharge limits which apply only to the freshwater reverse osmosis brine discharge after termination of all other low volume waste discharges, as required by this Order.

51. This Order contains **interim** and **final** receiving water limits. The receiving water limits in this Order were developed as outlined below.

Dissolved Oxygen This Order does not establish receiving water limits for dissolved oxygen. This Order may be revised to establish such limits in the future. This Order requires SDG&E to submit a proposed Basin Plan amendment, including adequate supporting documentation, for water quality objectives for dissolved oxygen in south San Diego Bay. (See Reporting Requirement F.18.)

Total Chlorine Residual This Order establishes an interim receiving water limit for total chlorine residual that applies to all receiving waters except those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09 (Latitude 32°36'46.6", North; Longitude 117°06'04.5", West). This interim receiving water limit of 0.2 mg/l is the same as the once-through cooling water discharge limit for total chlorine residual in the federal power plant regulations (40 CFR 423). There will be no receiving water limit for total chlorine residual in those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09 until the **final** total chlorine residual receiving water limits take effect. (Order No. 85-09 had no receiving water limit for total chlorine residual.)

The **final** total chlorine residual receiving water limits in this Order are the same as the water quality objectives for total chlorine residual contained in the 1990 Ocean Plan and apply to all receiving waters. This Regional Board may re-evaluate **final** total chlorine residual receiving water limits if the discharger is unable to meet those limits.

Arsenic, Cadmium, Chromium (Hexavalent), Copper, Lead, Mercury, Nickel, Silver, Zinc, Cyanide, Ammonia, Phenolic Compounds (Non-Chlorinated), Chlorinated Phenolics, and Radioactivity This Order establishes **interim** receiving water limits for these constituents that apply to all receiving waters except those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09. These **interim** receiving water limits are the same as the receiving water limits in Order No. 85-09. There will be no receiving water

limits for these constituents in those waters in the discharge channel east of the existing combined discharge monitoring point until the **final** receiving water limits for these constituents take effect.

The **final** receiving water limits for these constituents are the same as the water quality objectives for these constituents contained in the 1990 Ocean Plan and apply to all receiving waters.

Toxicity This Order establishes an **interim** receiving water limit for acute toxicity that applies to all receiving waters except those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09. This **interim** receiving water limit is the same as the receiving water limit for "toxicity concentration" (i.e. acute toxicity) in Order No. 85-09. No **interim** receiving water limit for chronic toxicity is included in this Order. (Order No. 85-09 did not contain a chronic toxicity receiving water limit.)

The **final** receiving water limit for acute toxicity is the same as the receiving water limit for "Toxicity Concentration" in Order No. 85-09. The final receiving water limit for acute toxicity applies to all receiving waters. No **final** receiving water limit for chronic toxicity is included in this Order.

Bis(2-chloroethoxy) Methane, Bis(2-ethylhexyl) Phthalate, Chloroform, Chromium (III), Di-n-butyl Phthalate, Halomethanes, and PAHs This Order establishes **interim** receiving water limits for these constituents that apply to all receiving waters except those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09. The **interim** limits in the this Order are the same as the water quality objectives for these constituents contained in the 1990 Ocean Plan. The **interim** limits will remain in effect as long as the corresponding in-plant waste limits for these constituents are in effect.

Other Constituents and Parameters This Order also establishes receiving water limits for other constituents and parameters. These receiving water limits are the same as the water quality objectives contained in the Basin Plan and the 1990 Ocean Plan and apply to all receiving waters. With the exception of the limits for turbidity, pH and unionized ammonia, these limits are in narrative form.

52. The current (1992) State Board Water Quality Assessment, as revised by the May 16, 1996 State Board CWA Section 303(d)

submittal, and as partially approved by USEPA Region 9 by letter dated June 14, 1996, indicates that the only portion of San Diego Bay which has been placed on the "Water Quality Limited Segment" list in accordance with Section 303(d) of the CWA is the Shelter Island Yacht Basin. This list identifies specific water bodies where numeric or narrative water quality objectives are not being maintained and/or where beneficial uses are not fully protected after the application of BAT/BPT. This portion of San Diego Bay has also been included on the "long list" in accordance with Section 304(l) of the CWA. This list includes water bodies that have been designated as being impaired because narrative or numeric water quality objectives are violated or beneficial uses are impaired. The South Bay Power Plant discharge is located approximately ten nautical miles (following the curvature of the bay) from the portion of San Diego Bay which has been placed on the Water Quality Limited Segment List and the "long list." Therefore, control strategies for discharges to Water Quality Limited Segments do not apply to the discharge from the South Bay Power Plant.

53. Because of the configuration of the cooling water intake and discharge channels of the South Bay Power Plant, waste constituents and pollutants may be present at concentrations in the intake water as a result of spills or other discharges by others beyond the control of the discharger which could cause the discharge from the South Bay Power Plant to violate requirements contained in this Order. Prior to initiating enforcement action for such violations under this Order, the Regional Board will take into consideration the source of the waste constituents or pollutants causing the violation(s) and any affirmative actions of the discharger to mitigate the impact of pollutants upon waters of the state and of the United States and to assist in abatement of any pollution or nuisance associated with discharges that violate the requirements of this Order under such circumstances (e.g., development and implementation of contingency plans, actions to eliminate or minimize impacts, avoidance of actions that would exacerbate the problem, etc.). This Regional Board may re-evaluate limits established in this Order if the discharger is unable to meet those limits because of the presence of pollutants discharged by others in the intake water.

54. On November 19, 1991, the State Board adopted the General Industrial Storm Water Permit, Order No. 91-13-DWQ (as amended by Water Quality Order No. 92-12-DWQ), NPDES No. CAS000001. On April 7, 1992, SDG&E submitted a Notice of Intent to the State Board for obtaining coverage of the South Bay Power Plant under Order No. 91-13-DWQ. The State Board confirmed coverage of the SDG&E South Bay Power Plant under Order No. 91-13-DWQ and assigned WDID# 9 37S005562 to

the facility.

55. Pursuant to 40 CFR 131.12 and State Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (collectively "antidegradation policies"), the Regional Board shall ensure that any increase in pollutant loading to a receiving water is consistent with antidegradation policies. This Order does not authorize any new discharges. Furthermore, effluent concentration and mass emission rate limitations in this Order are the same or more stringent than those in Order No. 85-09, except for differences due to rounding or significant figures. Therefore, adoption of this Order is consistent with antidegradation policies.

56. This Order shall serve as an NPDES permit for the combined discharge of elevated temperature once-through cooling water and other waste discharges from the SDG&E South Bay Power Plant to San Diego Bay pursuant to Section 402 of the CWA, and amendments thereto.

57. This Regional Board, in establishing the requirements contained herein, considered factors including, but not limited to, the following:

    a. Beneficial uses to be protected and the water quality objectives reasonably required for that purpose;

    b. Other waste discharges;

    c. The need to prevent nuisance;

    d. Past, present, and probable future beneficial uses of San Diego Bay waters under consideration;

    e. Environmental characteristics of San Diego Bay waters under consideration, including the quality of water available thereto;

    f. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;

    g. Economic considerations;

    h. The need for developing housing within the region; and,

    i. The need to develop and use recycled water.

58. The issuance of waste discharge requirements for this discharge is exempt from the requirement for preparation of environmental documents under the California Environmental Quality Act (Public Resources Code, Division 13, Chapter 3,

Section 21000 et seq.) in accordance with the California Water Code, Section 13389.

59. This Regional Board has notified SDG&E and all known interested parties of its intent to renew NPDES permit requirements for the existing discharge of waste.

60. This Regional Board has, at a public meeting, heard and considered all comments pertaining to the discharge of once-through cooling water and other wastes from the SDG&E South Bay Power Plant to San Diego Bay.

IT IS HEREBY ORDERED, that San Diego Gas and Electric Company (hereinafter discharger), in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act and the regulations adopted thereunder, shall comply with the following requirements for the discharge from the South Bay Power Plant to San Diego Bay:

A. PROHIBITIONS

1. Compliance with the waste discharge prohibitions contained in the Basin Plan and listed in Attachment D hereto is required as a condition of this Order. [Basin Plan (BP)]

2. Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields. [Enclosed Bays and Estuaries Policy (EBEP)]

3. The discharge of municipal and industrial waste sludge and untreated sludge digester supernatant, centrate, or filtrate to San Diego Bay, or into a waste stream that discharges to San Diego Bay is prohibited. [EBEP & Ocean Plan (OP)]

4. The deposition of rubbish or refuse into San Diego Bay or at any place where they would be eventually transported to San Diego Bay is prohibited. Rubbish and refuse include any cans, bottles, paper, plastic, vegetable matter, or dead animals or dead fish deposited or caused to be deposited by man. [EBEP]

5. Effective immediately, the discharge or by-passing of untreated waste, other than once-through (non-contact) cooling water, boiler blowdown, and fuel pump lube water, to San Diego Bay is prohibited. The discharge or by-passing of boiler blowdown and fuel pump lube

water to San Diego Bay is prohibited after December 31, 1997. [EBEP]

6. The combined discharge to San Diego Bay from the South Bay Power Plant in excess of 600 MGD (rounded to two significant figures) is prohibited unless the discharger obtains revised waste discharge requirements authorizing an increased flowrate.

7. The discharge of polychlorinated biphenyl compounds, such as those commonly used for transformer fluid, is prohibited. [40 CFR 423]

8. Total residual oxidants may not be discharged from any single generating unit for more than two hours per day. (See Finding 52.) Simultaneous multi-unit chlorination/bromination is permitted. [40 CFR 423]

9. New discharges[16/] of municipal wastewaters and industrial process waters[16/] (exclusive of cooling water discharges) to San Diego Bay which are not consistently treated and discharged in a manner that would enhance the quality of receiving waters above that which would occur in the absence of the discharge, are prohibited. [EBEP]

10. The discharge of industrial process waters, as identified in Finding No. 28, from the South Bay Power Plant to San Diego Bay is prohibited after December 31, 1997. [EBEP] Failure to meet this deadline shall be considered a violation of this Order unless SDG&E demonstrates that such failure was caused by factors beyond its control.

    No later than three months after adoption of this Order, the discharger shall submit to the Executive Officer a detailed plan and time schedule for terminating the discharge of industrial process waters from the South Bay Power Plant to San Diego Bay. Starting three months after adoption of this Order, and every three months thereafter until termination of the discharge of industrial process waters from the South Bay Power Plant to San Diego Bay, the discharger shall submit to the Executive Officer a status report on progress towards termination of such discharges.

11. Discharges from the South Bay Power Plant service water system to San Diego Bay are prohibited.

B. DISCHARGE SPECIFICATIONS

1. Combined Discharge

Note: Except for interim limits and limits on temperature, the compliance point for combined discharge effluent limits is at the west end of the discharge basin, halfway across the discharge channel (at approximately Latitude 32° 36' 48", North; Longitude 117° 05' 52", West). The compliance point for **interim** combined discharge effluent limits and limits on temperature is the same as the combined discharge monitoring point used to determine compliance with Order No. 85-09 (Latitude 32°36'46.6", North; Longitude 117°06'04.5", West).

a. Interim Limits

(1) The following interim limitations shall remain in effect until the Executive Officer determines that the discharge of all metal cleaning wastes and all low volume wastes except for freshwater reverse osmosis (RO) brine has been terminated and SDG&E certifies that these constituents are not added by SDG&E to the combined discharge from the South Bay Power Plant:

Parameter	Units[2a/3/4a/]	Instantaneous Maximum[7/]
Cadmium	ug/l lb/day	30 151
Mercury	ug/l lb/day	1.4 7
Silver	ug/l lb/day	4.5 23
Cyanide	ug/l lb/day	50 251
Ammonia (as N)	ug/l lb/day	6,000 30,132
Phenolic Compounds (non-chlorinated)	ug/l lb/day	300 1507
Chlorinated Phenolics	ug/l lb/day	10 50

See Appendix A for Endnote References

Parameter	Units[2a/3/4a/]	Instantaneous Maximum[7/]
Radioactivity	Not to exceed limits specified in Title 17, Division 5, Chapter 4, Group 3, Article 3, Section 32069 of the California Code of Regulations	

Note: ug/l = micrograms per liter
lb/day = pounds per day

(2) The following interim limitations shall remain in effect until December 31, 1997.

Parameter	Units[2a/3/4a/]	6-Month Median[5/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
pH	pH units	within the limits of 6.0 to 9.0 at all times		
Arsenic	ug/l lb/day	--	--	80 402
Chromium (Hexavalent)[8/]	ug/l lb/day	--	--	20 100
Copper	ug/l lb/day	--	--	50 251
Lead	ug/l lb/day	--	--	80 402
Nickel	ug/l lb/day	--	--	200 1004
Zinc	ug/l lb/day	--	--	200 1004
Total Chlorine Residual[9/]	ug/l lb/day	--	200 334	200 334
Acute Toxicity[12A/]	TUa	0.05	--	--

(3) If the discharge to San Diego Bay of all metal cleaning wastes and all low volume wastes except for freshwater reverse osmosis (RO) brine has <u>not</u> been terminated by December 31, 1997, the following interim

limitations shall take effect on December 31, 1997, unless SDG&E demonstrates that its failure to terminate those discharges by December 31, 1997 was caused by factors beyond its control. These interim limitations shall remain in effect until the Executive Officer determines that the discharge to San Diego Bay of all metal cleaning wastes and all low volume wastes except for freshwater reverse osmosis (RO) brine has been terminated.

The effluent limits specified in the following table shall not be exceeded except where the intake water concentration of a constituent exceeds the specified effluent limit for that constituent. Where the concentration of a constituent in the intake water is greater than the corresponding limit specified here, there shall be no net discharge of that constituent. (NOTE: For purposes of determining compliance, the concentration of a constituent in the intake water will be assumed to be zero, unless the concentration of that constituent in the intake water is determined from an intake water sample for that constituent collected concurrently with the combined discharge sample for that constituent.)

Parameter	Units [2b/3/4b/]	Instantaneous Maximum[7/]
Arsenic	ug/l lb/day	80 400
Chromium (Hexavalent)[8/]	ug/l lb/day	20 100
Copper	ug/l lb/day	30 150
Lead	ug/l lb/day	20 100
Nickel	ug/l lb/day	50 250
Zinc	ug/l lb/day	200 1,000

Note: ug/l = micrograms per liter
lb/day = pounds per day

b. Final Limits - Effective December 15, 1999

Note: Until such time that these **final** combined discharge effluent limits take effect, attainment of these **final** limits at the compliance point for **final** combined discharge effluent limits shall be considered a performance goal. Failure to achieve these performance goals shall not be considered a violation of this Order but may trigger requirements for investigation and/or corrective action.

Effective December 15, 1999, the following **final** effluent limitations apply to the combined discharge from the South Bay Power Plant to San Diego Bay.

(1) The effluent limits specified in the following table shall not be exceeded except where the intake water concentration of a constituent exceeds the specified effluent limit for that constituent. Where the concentration of a constituent in the intake water is greater than the corresponding limitation specified here, there shall be no net discharge of that constituent. (NOTE: For purposes of determining compliance, the

concentration of a constituent in the in water will be assumed to be zero, unless concentration of that constituent in the intake water is determined from an intake water sample for that constituent collected concurrently with the combined discharge sample for that constituent.)

Parameter	Units [2b/3/4b/]	6-Month Median[5/]	Monthly Average [10/]	Weekly Average [11/]	Daily Maximum [6/]	Instantaneous Maximum[7/]
Total Chlorine Residual[9/]	ug/l lb/day	2 10	--	--	8 40	60 300

Note: ug/l = micrograms per liter
lb/day = pounds per day

(2) The pH of the combined discharge from the South Bay Power Plant to San Diego Bay shall be within the limits of 6.0 to 9.0 at all times except where the pH of the intake water is less than 6.0 or greater than 9.0. Where the pH of the intake water is less than 6.0, the pH of the combined discharge shall not be less than the pH of the intake water. Where the pH of the intake water is greater than 9.0, the pH of the combined discharge shall not be greater than the pH of the intake water.

For purposes of determining compliance, the pH in the intake water will be assumed to be within the range of 6.0 to 9.0, unless the pH in the intake water is determined from an intake water sample for pH collected concurrently with the combined discharge sample for pH.

(3) The six month median acute toxicity[12A/] of the combined discharge from the South Bay Power Plant to San Diego Bay shall not exceed 0.05 TUa[12/].

(c) Final limits - Effective Immediately

The temperature of the combined discharge shall not average more than 15°F (8.3°C) above that of the intake water during any 24-hour period. The combined discharge shall not at any time exceed

25°F (13.9°C) above that of the intake water.

2. Waste discharged from the South Bay Power Plant to San Diego Bay must be essentially free of:

   a. Material that is floatable or will become floatable upon discharge.

   b. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.

   c. Substances which will accumulate to toxic levels in marine waters, sediments or biota.

   d. Substances that significantly decrease the natural light to benthic communities and other marine life.

   e. Materials that result in aesthetically undesirable discoloration of the bay surface. [OP]

3. All waste treatment, containment and disposal facilities shall be protected against 100-year peak stream flows as defined by the San Diego County flood control agency.

4. All waste treatment, containment and disposal facilities shall be protected against erosion, overland runoff and other impacts resulting from a 100-year frequency 24-hour storm.

5. Collected screenings, sludges, and other solids removed from liquid wastes, shall be disposed of in a manner approved by the Executive Officer.

6. The South Bay Power Plant discharge of elevated temperature wastes to San Diego Bay shall comply with limitations necessary to assure protection of beneficial uses. [Thermal Plan (TP)]

7. Low Volume Wastes

   a. The following **interim** effluent limitations (based on a maximum low volume waste flowrate of 0.537 MGD) apply to the discharge of all low volume wastes to the once-through cooling water flow. The following limitations shall remain in effect until December 31, 1997:[13/]

See Appendix A for Endnote References

Parameter	Units[3/]	Monthly Average[10/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
Total Suspended Solids	mg/l lb/day	30.0 134	100.0 448	100.0 448
Oil and Grease	mg/l lb/day	15.0 67.2	20.0 89.6	20.0 89.6

b. The following **final** effluent limitations (based on a maximum low volume waste flowrate of 0.029 MGD) apply to the discharge of all low volume wastes to the once-through cooling water flow. The following limitations shall become effective on December 31, 1997:[13/]

Parameter	Units[3/]	Monthly Average[10/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
Total Suspended Solids	mg/l lb/day	30.0 7.26	100.0 24.2	100.0 24.2
Oil and Grease	mg/l lb/day	15.0 3.63	20.0 4.84	20.0 4.84

8. Metal Cleaning Wastes

The following **interim** effluent limitations (based on a maximum metal cleaning waste flowrate of 0.453 MGD) apply to the discharge of all metal cleaning wastes to the once-through cooling water flow. The following limitations shall remain in effect until the Executive Officer determines that the discharge of all metal cleaning wastes has been terminated:[13/]

Parameter	Units[3/]	Monthly Average[10/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
Total Suspended Solids	mg/l lb/day	30.0 113	100.0 378	100.0 378
Grease and Oil	mg/l lb/day	15.0 56.7	20.0 75.6	20.0 75.6
Copper,	mg/l	1.0	1.0	1.0

See Appendix A for Endnote References

Parameter	Units[3/]	Monthly Average[10/]	Daily Maximum[6/]	Instantaneous Maximum[7/]
total	lb/day	3.8	3.8	3.8
Iron, total	mg/l lb/day	1.0 3.8	1.0 3.8	1.0 3.8

9. In-plant Wastes

The following **interim** effluent limitations apply to the discharge of all in-plant wastes (low volume wastes and metal cleaning wastes) to the once-through cooling water flow.

a. The following limitations shall remain in effect until the Executive Officer determines that the discharge of all in-plant wastes except for freshwater reverse osmosis (RO) brine has been terminated and SDG&E certifies that these constituents are not present in the in-plant waste discharge from the South Bay Power Plant:

Parameter	Units[3/14/]	6-Month Median[5/]	Daily[6/] Maximum
Arsenic	lb/day	40	161
Cadmium	lb/day	15	60
Chromium (Hexavalent)[8/]	lb/day	10	40
Copper	lb/day	25	100
Lead	lb/day	40	161
Mercury	lb/day	0.7	2.8
Nickel	lb/day	100	402
Silver	lb/day	2.3	9.0
Zinc	lb/day	100	402
Cyanide	lb/day	25	100
Ammonia (as N)	lb/day	3,013	12,053
Phenolic Compounds (non-chlorinated)	lb/day	151	603

See Appendix A for Endnote References

Parameter	Units[3/14/]	6-Month Median[5/]	Daily[6/] Maximum
Chlorinated Phenolics	lb/day	5	20

Parameter	Units[3/15/]	30-day Average
Bis(2-chloroethoxy) methane	lb/day	22
Bis(2-ethylhexyl) phthalate	lb/day	18
Chloroform	lb/day	650
Chromium (III)	lb/day	950,000
Di-n-butyl phthalate	lb/day	18,000
Halomethanes[1/]	lb/day	650
PAHs[1/]	lb/day	0.044

b. If the discharge to San Diego Bay of all metal cleaning wastes and all low volume wastes except for freshwater reverse osmosis (RO) brine has not been terminated by December 31, 1997, the following interim limitations shall take effect on December 31, 1997 and remain in effect until the Executive Officer determines that the discharge to San Diego Bay of all metal cleaning wastes and all low volume wastes except for freshwater reverse osmosis (RO) brine has been terminated.

Parameter	Units[3/14/]	6-Month Median[5/]	Daily[6/] Maximum
Arsenic	lb/day	40	160
Cadmium	lb/day	5	20
Chromium (Hexavalent)[8/]	lb/day	10	40
Copper	lb/day	15	60
Lead	lb/day	10	40
Mercury	lb/day	0.2	0.8

See Appendix A for Endnote References

Parameter	Units[3/14/]	6-Month Median[5/]	Daily[6/] Maximum
Nickel	lb/day	25	100
Silver	lb/day	2.3	9.0
Zinc	lb/day	100	400
Cyanide	lb/day	5	20
Ammonia (as N)	lb/day	3,000	12,000
Phenolic Compounds (non-chlorinated)	lb/day	150	600
Chlorinated Phenolics	lb/day	5	20

Parameter	Units[3/15/]	30-day Average
Bis(2-chloroethoxy) methane	lb/day	22
Bis(2-ethylhexyl) phthalate	lb/day	18
Chloroform	lb/day	650
Chromium (III)	lb/day	950,000
Di-n-butyl phthalate	lb/day	18,000
Halomethanes[1/]	lb/day	650
PAHs[1/]	lb/day	0.044

10. The discharge of any pollutant for which effluent limits are not established by this Order is prohibited except in the following circumstances:

    a. The pollutant has been identified in the application for this permit.

    b. The pollutant has not been identified in the application for this permit, so long as the discharger: (1) has complied with all applicable requirements for disclosure of information about its pollutant discharges, operations and sources of wastes; and (2) complies with all applicable requirements for notification of changes in its

See Appendix A for Endnote References

operations and discharges.

C. COOLING WATER INTAKE STRUCTURE SYSTEM SPECIFICATIONS

1. The discharger shall maintain velocities of water entering the intake structures at design levels and routinely clean the bar racks at South Bay Power Plant. The discharger shall rotate and clean intake screen assemblies for each unit, when operating, as needed for the purpose of maintaining intake water velocities as close as practical to design levels.

2. The discharger shall minimize once-through cooling water flow where possible when units are at reduced load or out of service.

3. The discharger shall avoid sudden increases in once-through cooling water flow whenever possible.

D. RECEIVING WATER LIMITATIONS

1. The South Bay Power Plant discharge to San Diego Bay shall not by itself or jointly with any other discharge(s) cause non-attainment of the following water quality objectives outside of any mixing zone allowed.

   a. Physical Characteristics

      (1) Waters shall not contain oils, greases, waxes, or other materials in concentrations which result in a visible film or coating on the surface of the water or on objects in the water, or which cause nuisance or which otherwise adversely affect beneficial uses. [BP]

      (2) The discharge of waste[1/] shall not cause aesthetically undesirable discoloration of the bay surface. [OP]

      (3) Natural[1/] light shall not be significantly[1/] reduced at any point outside the initial[1/] dilution zone as the result of the discharge of waste[1/]. [OP]

      (4) The rate of deposition of inert solids and the characteristics of inert solids in bay sediments shall not be changed such that

See Appendix A for Endnote References

benthic communities are degraded[1/]. [OP]

(5) Waters shall not contain floating material, including solids, liquids, foams, and scum in concentrations which cause nuisance or adversely affect beneficial uses. [BP]

(6) The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. [BP]

(7) Waters shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses. [BP]

(8) Waters shall not contain taste or odor producing substances at concentrations which cause a nuisance or adversely affect beneficial uses. [BP]

(9) Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. In addition, within San Diego Bay, the transparency of bay waters, insofar as it may be influenced by any controllable factor, either directly or through induced conditions, shall not be less than 8 feet in more than 20 percent of the readings in any zone, as measured by a standard Secchi disk. Wherever the water is less than 10 feet deep, the Secchi disk reading shall not be less than 80 percent of the depth in more than 20 percent of the readings in any zone. [BP]

b. Chemical Characteristics

(1) The pH shall not be changed at any time more than 0.2 units from that which occurs naturally. The pH shall not be depressed below 7.0 nor raised above 9.0. [BP]

(2) The dissolved sulfide concentration of waters in and near sediments shall not be significantly[1/] increased above that present under natural conditions. [OP]

(3) The concentration of substances set forth in

Receiving Water Limitation D.2 in marine sediments shall not be increased to levels which would degrade[1/] indigenous biota. [OP]

(4) The concentration of organic materials in marine sediments shall not be increased to levels which would degrade[1/] marine life. [OP]

(5) Nutrient materials shall not cause objectionable aquatic growth or degrade[1/] indigenous biota. [OP]

(6) San Diego Bay waters shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisance or adversely affect beneficial uses. [BP]

(7) The discharge of wastes shall not cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in San Diego Bay. [BP]

(8) No individual pesticide or combination of pesticides shall be present in the water column, sediments or biota at concentration(s) that adversely affect beneficial uses. Pesticides shall not be present at levels which will bioaccumulate in aquatic organisms to levels which are harmful to human health, wildlife or aquatic organisms. [BP]

c. Biological Characteristics

(1) Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded[1/]. [OP]

(2) The natural taste, odor, and color of fish, shellfish[1/], or other marine resources used for human consumption shall not be altered. [OP]

(3) The concentration of organic materials in fish, shellfish[1/] or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health. [OP]

See Appendix A for Endnote References

d. Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal or aquatic life. [BP]

e. Toxicity

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board. [BP]

2. a. The following **interim** receiving water limits apply to all receiving waters except those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09 (Latitude 32°36'46.6", North; Longitude 117°06'04.5", West). The following limits shall remain in effect until December 15, 1999:

The South Bay Power Plant discharge to San Diego Bay shall not by itself or jointly with any other discharge(s) cause the following concentrations to be exceeded outside of any mixing zone allowed:

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	ug/l	8	32	80
Cadmium	ug/l	3	12	30
Chromium (Hexavalent)[8/]	ug/l	2	8	20
Copper	ug/l	5	20	50
Lead	ug/l	8	32	80
Mercury	ug/l	0.14	0.56	1.4
Nickel	ug/l	20	80	200
Silver	ug/l	0.45	1.8	4.5
Zinc	ug/l	20	80	200
Cyanide	ug/l	5	20	50
Total Chlorine Residual[9/]	mg/l	--	--	0.2
Ammonia (as N)	ug/l	600	2400	6000
Acute Toxicity[12A/]	TUa	0.05	--	--
Phenolic Compounds (non-chlorinated)	ug/l	30	120	300
Chlorinated Phenolics	ug/l	1	4	10
Radioactivity	Not to exceed limits specified in Title 17, Division 5, Chapter 4, Group 3, Article 3, Section 32069 of the California Code of Regulations			

b. The following **interim** receiving water limits apply to all receiving waters except those waters in the discharge channel east of the combined discharge monitoring point used to determine compliance with Order No. 85-09 (Latitude 32°36'46.6", North; Longitude 117°06'04.5", West). The following limits shall remain in effect until the Executive Officer determines that the discharge of all in-

See Appendix A for Endnote References

plant wastes except for freshwater reverse osmosis brine has been terminated and SDG&E certifies that these constituents are not present in the in-plant waste discharge from the South Bay Power Plant:

The South Bay Power Plant discharge to San Diego Bay shall not by itself or jointly with any other discharge(s) cause the following concentrations to be exceeded outside of any mixing zone allowed:

Parameter	Units	30-day Average
Bis(2-chloroethoxy) methane	ug/l	4.4
Bis(2-ethylhexyl) phthalate	ug/l	3.5
Chloroform	mg/l	0.13
Chromium (III)	mg/l	190
Di-n-butyl phthalate	mg/l	3.5
Halomethanes[1/]	mg/l	0.13
PAHs[1/]	ng/l	8.8

Note: ng/l = nanograms per liter

c. Effective December 15, 1999, the following **final** receiving water limits apply to all receiving waters including the discharge channel:

The South Bay Power Plant discharge to San Diego Bay shall not by itself or jointly with any other discharge(s) cause the following concentrations to be exceeded outside of any mixing zone allowed:

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Arsenic	ug/l	8	32	80
Cadmium	ug/l	1	4	10
Chromium[8/] (Hexavalent)	ug/l	2	8	20
Copper	ug/l	3	12	30
Lead	ug/l	2	8	20

See Appendix A for Endnote References

Parameter	Units	6-Month Median	Daily Maximum	Instantaneous Maximum
Mercury	ug/l	0.04	0.16	0.4
Nickel	ug/l	5	20	50
Silver	ug/l	0.7	2.8	7
Zinc	ug/l	20	80	200
Cyanide	ug/l	1	4	10
Total Chlorine Residual[9/]	ug/l	2	8	60
Ammonia (as N)	ug/l	600	2400	6000
Acute Toxicity[12A/]	TUa	0.05	--	
Phenolic Compounds (non-chlorinated)	ug/l	30	120	300
Chlorinated Phenolics	ug/l	1	4	10
Radioactivity	Not to exceed limits specified in Title 17, Division 5, Chapter 4, Group 3, Article 3, Section 32069 of the California Code of Regulations			

Note: ug/l = micrograms per liter

E. PROVISIONS

1. Neither the treatment nor the discharge of waste shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.

2. The discharger must comply with all conditions of this Order. Any permit noncompliance constitutes a violation of the CWA and the California Water Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a report of waste discharge submitted in application for permit modification or reissuance.

3. The discharger shall take all reasonable steps to

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minimize or correct any adverse impact on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncomplying discharge.

4. This Order may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

   a. Violation of any terms or conditions of this Order;

   b. Obtaining this Order by misrepresentation or failure to disclose fully all relevant facts; or

   c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

   The filing of a request by the discharger for modification, revocation and reissuance, or termination of this Order, or a notification of planned change in or anticipated noncompliance with this Order does not stay any condition of this Order.

5. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this Order, the Executive Officer may institute proceedings under these regulations to modify or revoke and reissue the Order to conform to the toxic effluent standard or prohibition.

6. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use and disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this Order has not yet been modified to incorporate the requirement.

7. This Order does not convey any property rights of any sort or any exclusive privilege. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor

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protect the discharger from liabilities under federal, state, or local laws, nor create a vested right for the discharger to continue the waste discharge.

8. The discharger shall allow the Regional Board, or any authorized Regional Board representative, or any authorized representative of the USEPA (including an authorized contractor acting as a representative of the Regional Board or USEPA), upon presentation of credentials and other documents as may be required by law, to:

   a. Enter upon the discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order;

   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. Sample or monitor at reasonable times, for the purposes of assuring compliance with this Order or as otherwise authorized by the CWA or California Water Code, any substances or parameters at any location.

9. The discharger shall take all reasonable steps to minimize or prevent any discharge or prevent any discharge or sludge use or disposal in violation of this Order which has a reasonable likelihood of adversely affecting human health or the environment.

10. The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the discharger only when the operation is necessary to achieve compliance with the conditions of this Order.

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11. It shall not be a defense for the discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. Upon reduction, loss, or failure of a treatment facility, the discharger shall, to the extent necessary to maintain compliance with this Order, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided. This provision applies, for example, when the primary source of power of a treatment facility fails, is reduced, or is lost.

12. Bypass of Treatment Facilities

    a. Definition

    "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

    b. Notice

    The discharger shall submit notice of any bypass as required in Reporting Requirement F.6.

13. Upset

    a. Definition

    "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

    b. Effect of an Upset

    An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph c. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

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c. Conditions Necessary for a Demonstration of Upset

A discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the discharger can identify the cause(s) of the upset;

(2) The permitted facility was at the time being properly operated;

(3) The discharger submitted notice of the upset as required in Reporting Requirement F.6. of this Order; and

(4) The discharger complied with any remedial measures required under Provision E.9. of this Order.

d. Burden of Proof

In any enforcement proceeding the discharger seeking to establish the occurrence of an upset has the burden of proof.

14. The provisions of this Order are severable, and if any provision of this Order, or the application of any provision of this Order to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this Order, shall not be affected thereby.

15. The discharger shall comply with any interim effluent limitations as established by addendum, enforcement action or revised waste discharge requirements which have been or may be adopted by this Regional Board.

16. The discharger shall have and implement a Best Management Practices (BMP) program in accordance with 40 CFR 125.100-125.104. The BMP program shall prevent, or minimize the potential for, the release of toxic or hazardous pollutants, including any such pollutants referred to in Finding Nos. 11 through 21, from ancillary activities to waters of the United States. The discharger shall maintain the BMP program in an up-to-date condition and shall amend the BMP program in accordance with 40 CFR 125.100-125.104 whenever there is a change in facility design, construction,

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operation, or maintenance which materially affects the potential for discharge from the South Bay Power Plant of significant amounts of hazardous or toxic pollutants into waters of the United States. The BMP program, and any amendments thereto, shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The discharger shall submit the BMP program and any amendments thereto to the Executive Officer.

16A. The discharger shall have and implement a BMP program to minimize the quantity of metals and arsenic discharged from the South Bay Power Plant to San Diego Bay. The BMP program, and any amendments thereto, shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The discharger shall submit the BMP program and any amendments thereto to the Executive Officer.

16B. The discharger shall have and implement a BMP program to prevent discharges from the South Bay Power Plant service water system to San Diego Bay. The BMP program, and any amendments thereto, shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The discharger shall submit the BMP program and any amendments thereto to the Executive Officer.

16C. No later than one year from the date of adoption of this Order, SDG&E shall submit a written report to the Executive Officer which identifies and evaluates best management practices; pollution prevention measures; treatment; mitigation measures; and alternative facilities, systems, operations, processes, procedures, chemicals, and materials which could prevent, or minimize the potential for, the discharge of pollutants and wastes from the South Bay Power Plant to San Diego Bay, and the resulting potential adverse effects on water quality and beneficial uses. Topics to be addressed in the report shall include but not be limited to the following:

a. Cooling water system biofouling control (biocides, e.g. chlorine, bromine);

b. Cooling water system corrosion protection system (metals, e.g. copper, zinc);

c. Service water system (leak prevention; corrosion inhibitors, e.g. chromate);

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d. Boiler chemical cleaning (cleaning chemicals, e.g. thiourea);

e. RO membrane cleaning (cleaning chemicals, e.g. biocides); and

17. A copy of this Order and the BMP plan shall be maintained in the central offices at the South Bay Power Plant, and shall be available to operating personnel at all times.

18. In accordance with CWA Sections 316(a) and 316(b), the discharger shall comply with any applicable standards and guidelines which may be established by USEPA pursuant to these sections. The discharger shall conduct such studies deemed necessary by the Executive Officer to demonstrate compliance with CWA Sections 316(a) and 316(b).

19. No later than 90 days after adoption of this Order, the discharger shall develop a Toxicity Reduction Evaluation (TRE) workplan in accordance with USEPA's Toxicity Reduction Evaluation Procedures: Phases 1, 2, and 3, (USEPA document Nos. USEPA 600/3-88/034, 600/3-88/035 and 600/3-88/036, respectively), and Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs) (USEPA 600/2-88/070). The TRE workplan shall be subject to the approval of the Executive Officer and shall be modified as directed by the Executive Officer. The discharger shall submit the TRE workplan to the Executive Officer upon completion of the TRE workplan.

If toxicity testing results show a violation of any acute or chronic toxicity limitation or show non-attainment of any acute or chronic toxicity performance goal identified in Discharge Specification B.1 of this Order, the discharger shall:

a. Take all reasonable measures necessary to immediately minimize toxicity; and

b. Increase the frequency of the toxicity test(s) which showed a violation or non-attainment to at least monthly until the results of at least two consecutive toxicity tests do not show violations or non-attainment.

If the Executive Officer determines that toxicity testing shows consistent violation of any acute or

chronic toxicity limitation or shows non-attainment of any acute or chronic toxicity performance goal identified in Discharge Specification B.1. of this Order, the discharger shall conduct a TRE which includes all reasonable steps to identify the source of toxicity. Once the source of toxicity is identified, the discharger shall take all reasonable steps to reduce the toxicity to meet the toxicity limitations and performance goals identified in Discharge Specification B.1 of this Order.

Within fourteen days of completion of the TRE, the discharger shall submit the results of the TRE, including a summary of the findings, data generated, a list of corrective actions necessary to achieve consistent compliance with all the toxicity limitations and consistent attainment of all toxicity performance goals of this Order and prevent recurrence of violations of those limitations and non-attainment of those performance goals, and a time schedule for implementation of such corrective actions. The corrective actions and time schedule shall be modified at the direction of the Executive Officer.

20. If only one sample is collected during the time period associated with the effluent limitations (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

21. All analytical data shall be reported uncensored with detection limits and quantitation limits identified. For any effluent limitation, compliance shall be determined using appropriate statistical methods to evaluate multiple samples. Sufficient sampling and analysis shall be conducted to determine compliance.

22. Compliance shall be determined as described below.

    a. For purposes of determining compliance based on the average or median of the results of analyses of multiple samples, sample analysis results below the PQL (defined below) but above the MDL (defined below) shall be assumed to equal the MDL and sample analysis results below the MDL shall be assumed to equal zero.

    b. For purposes of determining compliance with a limitation which is below the PQL based on the results of analysis of a single sample, a sample analysis result below the PQL shall be assumed to

indicate compliance.

c. Where violation of a limitation occurs after the corresponding PQL value changes from above to below the limitation value, the violation shall be assumed to have started at the beginning of the sampling period for the sample(s) which produced the analysis result(s) showing the violation.

23. Published values for MDLs (defined below) and PQLs shall be used except where revised MDLs and PQLs are available from recent laboratory performance evaluations, in which case the revised MDLs and PQLs shall be used. Where published values are not available, the Executive Officer will determine appropriate values based on available information, including information submitted by the discharger upon request of the Executive Officer.

a. The Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR Part 136 Appendix B.

b. The Practical Quantitation Level (PQL) is the lowest concentration of a substance which can be consistently determined within ±20% of the true concentration by 75% of the labs tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL for carcinogens is the MDL x 5, and for noncarcinogens is the MDL x 10.

24. When determining compliance based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g. PCBs) concentrations of individual members of the group may be considered to be zero if the analytical response for individual chemicals falls below the MDL for that parameter.

25. The requirements of this Order may be modified by this Regional Board after due notice to the discharger and all other interested parties and after this Regional Board has, at a public meeting, heard and considered all comments pertaining to the proposed modifications if this Regional Board finds that:

a. The Bays and Estuaries Policy does not apply to discharges from the South Bay Power Plant;

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b. One or more of the waste streams identified in this Order as industrial process waters should not be considered industrial process waters for purposes of the Bays and Estuaries Policy, and, therefore, SDG&E should not be required to terminate the discharge of such waste stream(s);

c. One or more of the waste streams identified in this Order as industrial process waters would consistently be treated and discharged in such a manner that would enhance the quality of the waters of south San Diego Bay above that which would occur in the absence of the discharge(s) and, therefore, SDG&E should not be required to terminate the discharge of such waste streams, as provided for in the Bays and Estuaries Policy;

d. It would not be practicable for SDG&E to terminate the discharge of industrial process waters, as identified in this Order, by the date specified in this Order;

e. It would not be practicable for SDG&E to comply with one or more of the final limits specified in this Order by the deadline dates specified in this Order;

f. It is appropriate to allow a dilution factor for the combined discharge from the South Bay Power Plant to San Diego Bay;

g. It is appropriate to allocate a dilution or mixing zone for the combined discharge from the South Bay Power Plant to San Diego Bay;

h. Site specific water quality objectives for one or more constituents have been established for south San Diego Bay;

i. It is appropriate to require implementation of best management practices to prevent or control the discharge of certain constituents to the cooling water in lieu of establishing combined discharge limits for those constituents; or

j. The discharge of total residual oxidants (e.g. chlorine and bromine) from any single generating unit for more than two hours per day is required for macroinvertebrate control.

It is the responsibility of SDG&E to provide the

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information and/or to make the demonstration(s) necessary for this Regional Board to make these findings.

F. REPORTING REQUIREMENTS

1. The discharger shall file a new Report of Waste Discharge not less than 180 days prior to any material change or proposed change in the character, location, or volume of the discharge including, but not limited to, the following:

   a. Addition of a major industrial waste discharge to a discharge of essentially domestic sewage, or the addition of a new process or product by an industrial facility resulting in a change in the character of the waste.

   b. Significant change in disposal method, e.g., change from a land disposal to a direct discharge to water, or change in the method of treatment which would significantly alter the characteristics of the waste.

   c. Significant change in disposal area, e.g., moving the discharge to another drainage area, to a different water body, or to a disposal area significantly removed from the original area, potentially causing different water quality or nuisance problem.

   d. Increase in flow beyond that specified in this Order.

2. The discharger shall give notice to the Executive Officer as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR Part 122.29(b);

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order, nor to notification requirements under Reporting

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Requirement F.7; or

c. The alteration or addition results in a significant change in the discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of conditions in this Order that are different from or absent in the existing Order, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

3. The discharger shall give advance notice to the Executive Officer of any planned changes in the permitted facility or activity which may result in noncompliance with the requirements of this Order.

4. This Order is not transferable to any person except after notice to the Executive Officer. The Executive Officer may require modification or revocation and reissuance of this Order to change the name of the discharger and incorporate such other requirements as may be necessary under the CWA or the California Water Code in accordance with the following:

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a. Transfers by Modification

Except as provided in paragraph b. of this reporting requirement, this Order may be transferred by the discharger to a new owner or operator only if this Order has been modified or revoked and reissued, or a minor modification made to identify the new discharger and incorporate such other requirements as may be necessary under the CWA or California Water Code.

b. Automatic Transfers

As an alternative to transfers under paragraph a. of this reporting requirement, any NPDES permit may be automatically transferred to a new discharger if:

(1) The current discharger notifies the Executive Officer at least 30 days in advance of the proposed transfer date in paragraph b.(2) of this reporting requirement;

(2) The notice includes a written agreement between the existing and new dischargers containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

(3) The Executive Officer does not notify the existing discharger and the proposed new discharger of his or her intent to modify or revoke and reissue the Order. A modification under this subparagraph may also be a minor modification under 40 CFR Part 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph b.(2) of this reporting requirement.

5. The discharger shall comply with Monitoring and Reporting Program No. 96-05. Monitoring results shall be reported at the intervals specified in Monitoring and Reporting Program No. 96-05.

6. The discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally to the Executive Officer within 24 hours from the time the discharger becomes aware of the circumstances. A written description of any noncompliance shall be submitted to the Executive

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Officer within 5 days of such an occurrence and contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The following shall be included as information which must be reported within 24 hours under this reporting requirement:

a. Any bypass as defined in Provision E.12 of this Order.

b. Any discharge of treated or untreated wastewater resulting from pipeline breaks, obstruction, surcharge or any other circumstance.

c. Any upset which exceeds any effluent limitation in this Order.

d. Violation of a daily maximum effluent limitation as specified in this Order.

e. Any spills of polychlorinated biphenyl compounds (PCB). The spill residue shall be drummed and disposed of in a manner which is compliance with all federal, state and local laws and regulations. Written notification shall include pertinent information explaining reasons for the spill and shall indicate what steps were taken to prevent the problem from recurring.

f. Any violation of the effluent limitations for acute or chronic toxicity as specified in this Order.

g. Any violation of the prohibitions of this Order.

7. The discharger shall notify the Executive Officer as soon as it knows or has reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic or non-toxic pollutant which is not limited in this Order, if that discharge will exceed the highest of the following "notification levels":

(1) One hundred micrograms per liter (100 ug/l);

(2) Two hundred micrograms per liter (200 ug/l)

See Appendix A for Endnote References

for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge submitted in application for this Order; or

(4) The level established by the Regional Board in accordance with 40 CFR 122.44(f).

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic or non-toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(1) Five hundred micrograms per liter (500 ug/l);

(2) One milligram per liter (1 mg/l) for antimony;

(3) Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge submitted in application for this Order; or,

(4) The level established by the Regional Board in accordance with 40 CFR 122.44(f).

8. The discharger shall furnish to the Executive Officer, State Board Executive Director, or USEPA, within a reasonable time, any information which the Executive Officer, State Board Executive Director, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order, or to determine compliance with this Order. The discharger shall also furnish to the Executive Officer, State Board Executive Director, or USEPA, upon request, copies of records required to be kept by this Order.

9. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order shall be submitted no later than 14 days following each schedule date.

See Appendix A for Endnote References

10. The discharger shall report all instances of noncompliance not reported under Reporting Requirements F.5, F.6, and F.9 of this Order, at the time monitoring reports are submitted. The reports shall contain the information listed in Reporting Requirement F.6 of this Order.

11. Where the discharger becomes aware that it failed to submit any relevant facts in a Report of Waste Discharge, or submitted incorrect information in a Report of Waste Discharge, or in any report to the Regional Board, it shall promptly submit such facts or information.

12. This Order expires on November 14, 2001. If the discharger wishes to continue any activity regulated by this Order after the expiration date of this Order, the discharger must apply for and obtain new waste discharge requirements. The discharger must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations not later than 180 days in advance of the expiration date of this Order as application for issuance of new waste discharge requirements.

13. All applications, reports, or information submitted to the Executive Officer shall be signed and certified.

    a. All Reports of Waste Discharge shall be signed as follows:

        (1) **For a corporation:** by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (b) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

        (2) **For a partnership or sole proprietorship:** by a general partner or the proprietor,

See Appendix A for Endnote References

respectively; or

(3) **For a municipality, State, Federal or other public agency:** by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (a) the chief executive officer of the agency, or (b) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA).

b. All reports required by this Order, and other information requested by the Executive Officer shall be signed by a person described in paragraph a. of this reporting requirement, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph a. of this reporting requirement;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and,

(3) The written authorization is submitted to the Executive Officer.

c. If an authorization under paragraph b. of this reporting requirement is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this reporting requirement must be submitted to the Executive

Officer prior to or together with any reports, information, or applications to be signed by an authorized representative.

d. Any person signing a document under paragraph a. or b. of this reporting requirement shall make the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

14. Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this Order shall be available for public inspection at the offices of the California Regional Water Quality Control Board, San Diego Region. As required by the CWA, Reports of Waste Discharge, this Order, and effluent data shall not be considered confidential.

15. The discharger shall submit reports and provide notifications as required by this Order in accordance with the following:

a. Reports required to be submitted to the Executive Officer shall be sent to:

Surface Water Unit
California Regional Water Quality Control Board
San Diego Region
9771 Clairemont Mesa Blvd, Suite A
San Diego, California 92124-1331

Notifications required to be provided to the Executive Officer shall be made to:

Phone - (619) 467-2952 or

See Appendix A for Endnote References

Fax - (619) 571-6972

b. Reports required to be submitted to the USEPA shall be sent to:

U.S. Environmental Protection Agency
Region IX
Permits Issuance Section (W-5-1)
75 Hawthorne Street
San Francisco, California 94105

c. Reports required to be submitted to the DFG shall be sent to:

Department of Fish and Game
Environmental Services Division
4949 Viewridge Ave.
San Diego, California 92123

d. Reports required to be submitted to the USFWS shall be sent to:

U.S. Fish and Wildlife Service
Fish and Wildlife Enhancement
2730 Loker Avenue West
Carlsbad, California 92008

and

U.S. Fish and Wildlife Service - ES
911 Northeast 11th Street
Portland, Oregon 97232

e. Reports required to be submitted to the NMFS shall be sent to:

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
501 W. Ocean Blvd., Suite 4200
Long Beach, California 90802-4213

16. SDG&E shall conduct or fund a study for purposes of determining the species and abundance of fish in the discharge channel of the South Bay Power Plant. No later than three months after adoption of this Order, SDG&E shall submit a detailed study plan to the Executive Officer, USEPA, Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). The study plan shall be subject to the approval of the Executive

See Appendix A for Endnote References

Officer, in consultation with USEPA, DFG, USFWS, and NMFS, and shall be revised as directed by the Executive Officer. The study shall be initiated and the results submitted in accordance with a schedule specified by the Executive Officer.

17. SDG&E shall conduct a one-time study for the purpose of determining the effects of temperature and turbidity on the distribution of eelgrass in south San Diego Bay. No later than three months after adoption of this Order, SDG&E shall submit a detailed study plan to the Executive Officer, USEPA, Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). The study plan shall be subject to the approval of the Executive Officer, in consultation with USEPA, DFG, USFWS, and NMFS, and shall be revised as directed by the Executive Officer. The study shall be initiated and the results submitted in accordance with a schedule specified by the Executive Officer. If the Executive Officer, in consultation with USEPA, DFG, USFWS, and NMFS, determines that temperature has had an adverse effect on the distribution of eelgrass in south San Diego Bay, SDG&E shall submit an evaluation of such effects relative to the beneficial uses of south San Diego Bay in accordance with a schedule specified by the Executive Officer. If directed by the Executive Officer, SDG&E shall develop and submit a mitigation plan to the Executive Officer, USEPA, DFG, USFWS, and NMFS in accordance with a schedule specified by the Executive Officer, but no later than the expiration date of this Order, unless the Executive Officer approves a later date. The mitigation plan shall be subject to approval of the Executive Officer, in consultation with USEPA, DFG, USFWS, and NMFS, and shall be revised as directed by the Executive Officer. The mitigation plan shall be implemented and monitored in accordance with a schedule and criteria specified by the Executive Officer in consultation with USEPA, DFG, USFWS, and NMFS.

18. As soon as possible, but no later than March 1, 1998, the discharger shall submit a proposed Basin Plan amendment, including adequate supporting documentation, for water quality objectives for dissolved oxygen in south San Diego Bay.

G. NOTIFICATIONS

1. California Water Code Section 13263(g) states:

See Appendix A for Endnote References

No discharge of waste into the waters of the state, whether or not such discharge is made pursuant to waste discharge requirements, shall create a vested right to continue such discharge. All discharges of waste into waters of the state are privileges, not rights.

2. The CWA provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation of this Order, is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation of this Order, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than one year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than two years, or both.Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any condition or limitation of this Order, and who knows at that time that he or she thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

3. Except as provided in Provision E.13, nothing in this Order shall be construed to relieve the discharger from civil or criminal penalties for noncompliance.

4. Nothing in this Order shall be construed to preclude

See Appendix A for Endnote References

the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

5. Nothing in this Order shall be construed to preclude institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the CWA.

6. This Order shall become effective 10 days after the date of its adoption, provided the USEPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, this Order shall not become effective until such objection is withdrawn.

7. This Order supersedes Order No. 85-09 upon the effective date of this Order.

See Appendix A for Endnote References

Appendix A: Endnote References

Endnote references for Order No. 96-05 (NPDES No. CA0001368), WASTE DISCHARGE REQUIREMENTS FOR SAN DIEGO GAS AND ELECTRIC COMPANY, SOUTH BAY POWER PLANT, SAN DIEGO COUNTY.

1. See Appendix I of the 1990 Ocean Plan for definition of terms.

2. a. The concentration limits in this table were determined using the procedures outlined in Order No. 85-09.

   b. The concentration limits in this table were determined using the 1990 Ocean Plan Table B procedures for establishing combined discharge limits for power plants. Since it has not been demonstrated that it is appropriate to allow a mixing zone and/or dilution factor for the discharge from the South Bay Power Plant to San Diego Bay (see Finding 42), a dilution factor of zero was used to calculate the concentration limits.

3. The mass emission rate (MER) of a substance is calculated using the following equation:

   $$MER = 8.34 \times Q \times C$$

   Where MER is the mass emission rate in lb/day, Q is the discharge flowrate in MGD, and C is the effluent concentration in mg/l.

   If a composite sample is taken, C is the concentration measured in the composite sample and Q is the average discharge flowrate occurring during the period over which the composite sample is collected.

4. a. The MER limits in this table were obtained using Q = 602.2 MGD (the maximum daily combined discharge flowrate from Order No. 85-09) and effluent concentration limits determined as specified in Endnote 2a. When the combined discharge flowrate is lower than 602.2 MGD, the MER limits shall be correspondingly lower.

   b. The MER limits in this table were obtained using Q = 600 MGD (the maximum combined discharge flowrate rounded to two significant figures) and effluent concentration limits determined as specified in Endnote 2b. When the combined discharge flowrate is lower than 600 MGD, the MER limits shall be correspondingly lower.

5. The six-month median effluent concentration limit shall apply as a moving median of daily values for any 180-day

period in which daily values represent flow weighted average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.

6. The daily maximum effluent concentration limit shall apply to flow weighted 24 hour composite samples.

7. The instantaneous maximum effluent concentration limit shall apply to grab sample determinations.

8. The discharger may at its option meet this limitation as a total chromium limitation.

9. In samples obtained from marine, saline, or other waters containing bromine, total chlorine residual limitations shall apply to total residual oxidants.

   a. Discharge Specification B.1.a(2)

      In Discharge Specification B.1.a(2), the total chlorine residual effluent limitations are the same as those contained in Order No. 85-09. The MER limit was calculated using a cooling water discharge flowrate of 601.056 MGD and the procedures described in Endnote 9 of Order No. 85-09. When the flowrate is less than the maximum flowrate, the MER limit shall be correspondingly lower.

   b. Discharge Specification B.1.b

      In Discharge Specification B.1.b, the limits for total chlorine residual are for continuous chlorine/bromine discharges. If the discharge of chlorine/bromine is an intermittent discharge not exceeding two hours, the total chlorine residual effluent limitation shall be the lower of the following:

      (1) an effluent limitation calculated using the procedure described in the 1990 Ocean Plan and water quality objectives determined through the use of the following equation:

      $$\log y = -0.43(\log x) + 1.8$$

      where: y = the water quality objective (in ug/l) to apply when chlorine/bromine is being discharged;

      x = the duration of uninterrupted chlorine/bromine discharge in

minutes; or,

(2) the USEPA BAT effluent limitation contained in 40 CFR 423 (0.20 mg/l).

MER limits for intermittent discharges shall be calculated using the following equation:

MER limit (lb/day) = 8.34 x C x Q x z/24

where: C = effluent concentration limit as calculated above (mg/l)

Q = discharge flowrate (MGD)

z = total time (hours) chlorine/bromine is discharged per day, not to exceed two (2.0) hours per unit.

c. Receiving Water Limitation D.2.a

In Receiving Water Limitation D.2.a, the objective for total chlorine residual is the same as the once-through cooling water discharge limit for total chlorine residual in the federal power plant regulations (40 CFR 423).

d. Receiving Water Limitation D.2.c

In Receiving Water Limitation D.2.c, objectives for total chlorine residual are for continuous chlorine/bromine discharges. Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours shall be determined through the use of the following equation:

$$\log y = -0.43(\log x) + 1.8$$

where: y = the water quality objective (in ug/l) to apply when chlorine/bromine is being discharged; and,

x = the duration of uninterrupted chlorine/bromine discharge in minutes.

10. The monthly average is the arithmetic mean using the results of analyses of all samples collected during any 30 consecutive calendar day period.

11. The weekly average is the arithmetic mean using the results

of analyses of all samples collected during any 7 consecutive calendar day period.

12A. Acute Toxicity - Receiving Water Limits and Combined Discharge Effluent Limits

Acute toxicity tests measure lethal effects on organisms exposed to test waters (e.g. effluent) compared to that of organisms exposed to control waters.

i. Units, Test Species, and Methods

For purposes of the receiving water and the combined discharge effluent limits on acute toxicity, acute toxicity shall be expressed in Toxic Units Acute (TUa), where:

$$TUa = \frac{100}{96\text{-hr LC } 50}$$

and LC 50 (Lethal Concentration 50%), is the percentage of test water giving 50% survival of test organisms. LC 50 shall be determined by static or continuous flow bioassay techniques using standard test species and methods approved by the Executive Officer. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent test water, the acute toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

where S = percentage survival in 100% test water. If S >99, TUa shall be reported as zero.

During the first acute toxicity monitoring period, the discharger shall conduct tests with at least two species (one vertebrate and one invertebrate) approved by the Executive Officer. After this initial screening period, acute toxicity monitoring shall be conducted using the species determined to be most sensitive during the screening period. Each year, in a different month than the previous screening period(s), the discharger shall re-screen, using species approved by the Executive Officer. After each re-screening period, acute toxicity monitoring shall be conducted using the

species determined to be the most sensitive during the most recent re-screening period.

ii. Quality Assurance
Unless the test method specifies the use of lab water, dilution and control water shall be obtained from a location unaffected by the South Bay Power Plant discharge and approved by the Executive Officer. If the dilution water is different than the culture water, then culture water shall be used in a second control.

Concurrent testing with reference toxicants shall be conducted and the results shall be reported with the test results. If either the reference toxicant tests or the test water tests do not meet all the test acceptability criteria specified for the test method, the discharger shall re-sample and re-test as soon as possible.

13. The MER limits in Discharge Specifications 8.a, 8.b. and 9 were obtained using the indicated maximum flowrate and effluent concentration limits from the USEPA power plant regulations contained in 40 CFR Part 423 as shown in the table. When the discharge flowrate is lower than the maximum flowrate, the MER limit shall be correspondingly lower.

14. The MER limits in this table are the same as the in-plant waste discharge limits in Order No. 85-09, which were based on a maximum combined discharge flowrate of 602.162 MGD and effluent concentration limits from Order No. 85-09. When the combined discharge flowrate is lower than the maximum combined discharge flowrate, the MER limitations shall be correspondingly lower.

15. The MER limits in this table were obtained using Q = 600 MGD (the maximum combined discharge flowrate rounded to two significant figures) and procedures outlined in the 1990 Ocean Plan. When the combined discharge flowrate is lower than 600 MGD, the MER limits shall be correspondingly lower.

16. See Bays and Estuaries Policy for definition of terms.

I, John H. Robertus, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Diego Region, on November 14, 1996.

John H. Robertus
Executive Officer